We claim

1. An integrated process for the simultaneous recovery of industrial grade potassium chloride and low sodium edible salt with overall KCl yield of 90-95%, which comprises

(i) desulphatation of bittern with a solution of calcium chloride;

(ii) subjecting the desulphated bittern to evaporation till density of 32 to 32.5 °Be' (sp.gr.1.283-1.288) is achieved;

(iii) mixing the desulphated bittern obtained in step (ii) with a concentrated solution of $MgCl_2$ to obtain high purity carnallite;

(iv) decomposing the carnallite with water to obtain ca. 60 % of overall KCl and residual bittern;

(v) concentrating residual bittern to obtain residual NaCl and KCl in bittern in the form of crude carnallite and carnallinte decomposed liquor;

(vi) decomposing the crude carnallite obtained in step (v) with water to produce KCl-enriched low sodium salt in 30-35% overall yield with respect to KCl in the original 32 to 32.5 °Be' (sp.gr.1.283-1.288) bittern, as well as carnallite decomposed liquor;

(vii) collecting carnallite decomposed liquor obtained in steps (v) and (vii) above and treating with upgraded lime to generate low boron magnesium hydroxide and filtrate containing $CaCl_2$ and KCl;

(viii) recycling the filtrate obtained in step (vii) above to step (i) above for desulphatation of bittern while simultaneously recovering KCl lost in carnallite decomposed liquors;

(ix) recycling the $MgCl_2$-rich end bittern of step (iii) for sustained production of high purity carnallite and also for production of $CaCl_2$, and

(x) utilizing any excess $MgCl_2$ to recover bromine and obtain $MgCl_2.6H_2O$ and its derivatives.

2. A process as claimed claim 1 wherein in step (i) the density of bittern taken is in the range of 28-30 °Be' (s.g 1.24-1.26).

3. A process as claimed claim 1 wherein in step (i)the stoichiometric ratio of $CaCl_2$ to SO_4^{2-} is in the ratio of 0.9:1 to 1.1:1, and preferably 1:1.

4. A process as claimed claim 1 wherein in step (iv), one part of 32 to 32.5 °Be' (sp.gr. 1.283-1.289) is mixed with 2.0-2.5 parts of end bittern containing 400-440 g/L

$MgCl_2$ and the density of the resultant bittern is in the range of 34.0-35.0 °Be'(sp.gr. 1.306-1.318) and more preferably in the range of 34.4-34.6 °Be'. (sp.gr. 1.311-1.315).

5. A process as claimed claim 1 wherein in step (iii) the 32-32.5 °Be' (sp.gr. 1.283-1.289) bittern is filtered if required to remove insoluble matter such as dust, black particles and organic matter.

6. A process as claimed Claim 1 wherein in step (iv), the NaCl content of carnallite is in the range of 0.2-2.0 %, preferably in the range of 0.2-0.4%.

7. A process as claimed claim 1 wherein in step (iv) the purity of KCl obtained is in the range of 97-99 % after washing with water to remove adhering $MgCl_2$.

8. A process as claimed claim 1 wherein in step (v), the bittern is concentrated to a final density of 36.5-37.2 °Be' (sp.gr. 1.306-1.318) either by solar evaporation or preferably through forced evaporation in an open pan or still more preferably in a multiple effect evaporator for recovery of water.

9. A process as claimed claim 1 wherein in step (v) the crude carnallite contains 14-16% KCl and 18-22% NaCl.

10. A process as claimed claim 1 wherein in step (vi) the low sodium salt contains 40-50% KCl and 50-60% NaCl.

11. A process as claimed claim 1 wherein in step (vii), the carnallite decomposed liquor contains 15-20 mg/L B_2O_3 and 60-80 g/L Mg.

12. A process as claimed claim 1 wherein in step (vii), the $Mg(OH)_2$ obtained isconverted into MgO containing < 0.02 % B_2O_3.

13. A process as claimed claim 1 wherein in step (vii), the filtrate contains 15-30% $CaCl_2$ and 5-10% KCl.